



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,359	12/18/2001	Ludwig Ceshkovsky	98109001(US)US DSCO	3953
22887	7590	06/17/2005	EXAMINER	
DISCOVISION ASSOCIATES INTELLECTUAL PROPERTY DEVELOPMENT 2355 MAIN STREET, SUITE 200 IRVINE, CA 92614			VUONG, BACH Q	
			ART UNIT	PAPER NUMBER
			2653	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/683,359	Applicant(s) CESHKOVSKY, LUDWIG	
	Examiner Bach Q. Vuong	Art Unit 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) 64-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-63 and 79-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/25/02</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2653

This communication is responsive to amendment filed on 12/14/2004

Election/Restrictions

1. Applicant's election without traverse of claims 1-63 and 79-90, filed on 12/14/2004 is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 64-78 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species without traverse, there being no allowable generic or linking claim.

3. Claims 1-63 and 79-90 will be examined in the present invention.

Claim Objections

Claim 53 is objected to under 37 CFR 1.75 (a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 53, line 15, term "may be" does not recite a positive limitation. Applicant is suggested to change the term "may be" to -- is --.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27, line 1, terms “ wherein said optical reading means” is unclear and confusing since because there is no optical reading means recited in the parent claim (i.e., claim 14). Appropriate correction is required.

In claim 38, line 1, a limitation “ wherein said means for optically reading ... in response thereto” is unclear and confusing since because there is no means for optically reading adjacent optically encoded positions along a track recited in the parent claim (i.e., claim 14). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-14, 18-27, 31-41, 45-52, 58-63, 79, 80 and 84-90 are rejected under 35 U.S.C. 102(b) as being anticipated by Mashimo (US 5,132,957).

Mashimo, according to Figs. 7-9, shows an optical pickup apparatus for reading information on a rotating optical medium comprising all features of the claimed invention as indicated below:

Regarding claim 1, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium comprising: a light source (LD 17) adapted to direct two beams of lights onto adjusted locations on a track of the optical medium; first and second optical sensors (see PD 20) positioned to detect reflection of the beams of light from the optical

Art Unit: 2653

medium (see medium 19) and to produce a leading electrical signal and a lagging electrical signal (see PD 20 and AMP 21), respectively, wherein the leading electrical signal is delayed to at least partially coincide with the lagging electrical signal; and wherein the delayed leading electrical signal (see delay circuits 30 or 31) is combined with the lagging electrical signal to produce a resultant electrical signal in response to the overlap between the delayed leading electrical signal with the lagging electrical signal (see Figs 8 and 9 for details).

Regarding claims 5 and 6, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the optical sensors (see PD 20 and AMP 21) comprise photo sensitive arrays, wherein the photosensitive arrays comprises photodiodes (see column 3, line 41 through column 4, line 23).

Regarding claim 7, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the delay circuit (see delay 30 or 31) to adapted to delay the leading electrical signal by an amount that is based on a linear speed of the medium in relation to the reading means; a distance between the adjacent locations, and a selected amount of waveform coincidence (see LD 17 and disk 19 in Fig. 7 for details).

Regarding claim 8, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein an electronic delay circuit (see delay circuits 30 or 31 and a sync circuit 22) is adapted to delay the leading circuit electrical signal and output an electrical signal as a temporally shifted received electrical signal.

Regarding claims 9 and 10, see Figs. 8 and 9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the amount of temporal shift,

Art Unit: 2653

created by an electronic delay circuit is variable, and is responsive to the receipt of a delay selection input.

Regarding claim 11, Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein a multiplier circuit (see sync circuit 22 in Fig. 7) is used to combine the leading and lagging electrical signals, which outputs a resultant electrical signal in response to the overlap of the delayed leading electrical signal with the lagging electrical signal (see Figs. 8 and 9 for details).

Regarding claim 12, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the leading electrical signal is delayed to at least partially coincide with the lagging electrical signal by a delay circuit configured to delay the leading signal by a selected amount received circuit by a delay circuit input (see delay circuits 30 or 31).

Regarding claim 13, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the delayed leading electrical signal is combined with lagging electrical signal using a multiplier circuit to produce a resultant electrical signal (see a Sync circuit 22).

Regarding claim 14, see Figs. 7-9 which show an optical pickup apparatus for reading information on a rotating optical medium comprising: a light source (see LD 17) adapted to direct two beams of light onto adjacent locations on a track of the optical medium (see optical disk 19); first and second optical sensors (see PD 20 and AMP 21) positioned to detect reflection of the beams of light from the optical medium and to produce a leading electrical signal and a lagging electrical signal, respectively; the leading and lagging electrical signals

Art Unit: 2653

being proportional to an amount of light detected within each beam; a delay circuit adapted to delay the leading electrical signal to at least partially coincide with the lagging electrical signal (see delay 30 or 31); and means (see delay 30 or 31 and Sync 22) for combining the delayed leading electrical signal with the lagging electrical signal to produce a combined electrical signal in response to the overlap between the delayed leading signal with the lagging electrical signal (see Figs. 8 and 9 for details).

Regarding claims 18 and 19, see the rejection applied to claims 5 and 6.

Regarding claim 20, see the rejection applied to claim 7.

Regarding claim 21, see the rejection applied to claim 8.

Regarding claims 22 and 23, see the rejection applied to claims 9 and 10.

Regarding claim 24, see the rejection applied to claim 11.

Regarding claim 25, see the rejection applied to claim 13.

Regarding claim 26, see the rejection applied to claim 14.

Regarding claim 27, see Figs. 7-9 an optical pickup apparatus for reading information on a rotating optical medium wherein the optical reading means (see optical base 15) comprises: a light source (see LD 17) adapted to direct two beam of light onto adjacent locations on the track; and two optical sensors (see PD 20) positioned to detect the reflection of the beams of light and to produce a leading electrical signal and a lagging electrical signal which are proportional to an amount of light detected within each beam.

Regarding claims 31 and 32, see the rejection applied to claims 18 and 19.

Regarding claim 33, see the rejection applied to claim 20.

Regarding claim 34, see the rejection applied to claim 21.

Art Unit: 2653

Regarding claims 35 and 36, see the rejection applied to claims 22 and 23.

Regarding claim 37, see the rejection applied to claim 25.

Regarding claim 38, see Figs. 7-9 an optical pickup apparatus for reading information on a rotating optical medium wherein the means for optically reading adjacent optically encoded positions along the track and generating a leading and lagging electrical signal in response thereto (see optical base 15) comprises: first and second photo-detectors positioned to detect light beams reflected from the optical medium (see disk 19, PD 20 and AMP 21 for details); the first photo-detector positioned to detect a lagging light beam; the second photo-detector positioned to detect a leading light beam; circuitry configured to generate a lagging electrical signal; and circuitry configured to generate a leading electrical signal (First and second photodetectors and circuits for generating a leading and lagging signals are inherently included in optical base 15 shown in Fig. 7).

Regarding claim 39, see the rejection applied to claim 12.

Regarding claim 40, see Figs. 7 which show an optical pickup apparatus for reading information on a rotating optical medium wherein the means for combining the delayed leading electrical signal with the lagging electrical signal to produce a combined electrical signal comprises a summing circuit (see circuits 32, 33 and 34).

Regarding claim 41, see the rejection applied to claims 26 and 40.

Regarding claims 45 and 46, see the rejection applied to claims 5 and 6.

Regarding claim 47, see the rejection applied to claim 7.

Regarding claim 48, see the rejection applied to claim 8.

Regarding claims 49 and 50, see the rejection applied to claims 9 and 10.

Art Unit: 2653

Regarding claim 51, see the rejection applied to claim 11.

Regarding claim 52, see the rejection applied to claim 12.

Regarding claims 58 and 59, see the rejection applied to claims 5 and 6.

Regarding claim 60, see the rejection applied to claims 47 and 48.

Regarding claim 61, see the rejection applied to claim 49.

Regarding claim 62, see the rejection applied to claim 50.

Regarding claim 63, see the rejection applied to claim 53.

Regarding claim 79, see the rejection applied to claim 26.

Regarding claim 80, see the rejection applied to claim 27.

Regarding claims 84-86, see the rejection applied to claims 31 and 32.

Regarding claim 87, see the rejection applied to claim 34.

Regarding claims 88 and 89, see the rejection applied to claims 35 and 36.

Regarding claim 90, see the rejection applied to claim 37.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 15, 16, 28, 29, 42, 43, 55, 56, 81 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashimo (US 5,132,957) in view of Ohuchida (US 5,231,620).

Art Unit: 2653

Mashimo, according to Figs. 7-9, shows all features of the instant claimed invention (see the rejections above) except for the use of a diffraction grating configured to split light beam into a central read beam and peripheral tracking beam and optical mechanism configured to split the light beam tangentially along the track into two separate read beams as recited in of claim 2. Ohuchida, according to Figs. 1 and 3-9, does disclose the use of a diffraction grating and optical mechanism for splitting light beam into two separate read beams (see diffraction element 2 in Fig. 2 or 10 in Fig. 3). It has been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of a diffraction element as taught by Ohuchida in the optical pickup device of Mashimo in order to improve the tracking and focusing error detection.

Regarding claim 3, see the diffraction element 10 in Fig. 3 of the US reference 5,231,620, which show the optical mechanism comprise a blaze grating.

Regarding claim 15, see the rejection applied to claim 2.

Regarding claim 16, see the rejection applied to claim 3.

Regarding claim 28, see the rejection applied to claim 2.

Regarding claim 29, see the rejection applied to claim 3.

Regarding claim 42, see the rejection applied to claim 2.

Regarding claim 43, see the rejection applied to claim 3.

Regarding claims 55 and 56, see the rejection applied to claims 2 and 3.

Regarding claim 81, see the rejection applied to claim 28.

Regarding claim 82, see the rejection applied to claim 29.

Art. Unit: 2653

Claims 4, 17, 30, 44, 57 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashimo (US 5,132,957) in view of Ohuchida (US 5,231,620) and further in view of Yun et al. (US 6,480,445).

Mashimo and Ohuchida, in combination, show all features of the instant claimed invention (see the rejections applied to claim 2 above) and further show the use of a diffraction grating and optical mechanism for splitting light beam into two separate read beams. However, Mashimo and Ohuchida, in combination, do not specifically show the use of beam splitter positioned between the optical mechanism and objective lens, wherein the beam splitter directs portion of the optical energy from all of the beams toward the objective lens as recited in claim 4. Yun et al., according to Fig. 4, do disclose the use of splitter positioned between optical mechanism and objective lens (see grating 126, half mirror 124 and objective lens 122 in Fig. 4) which directs all of the beams toward the objective lens and all of reflection beams to photodetectors. It has been obvious to one of ordinary skill in the art at the time the invention was made to modified the optical pickup of Mashimo by employing the use of a diffraction element as taught by Ohuchida with incorporating a half mirror as taught by Yun et al. in order to handle the diffracted beams toward optical disk and reflected beams to photodetectors properly.

Regarding claim 17, see the rejection applied to claim 4.

Regarding claim 30, see the rejection applied to claim 4.

Regarding claim 44, see the rejection applied to claim 4.

Regarding claim 57, see the rejection applied to claim 4.

Regarding claim 83, see the rejection applied to claim 4.

Claims 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mashimo (US 5,132,957) in view of Kim et al. (US 6,563,780).

Mashimo, according to Figs. 7-9, shows all features of the instant claimed invention (see the rejections above) except for the use of a delay applied to the first electrical signal that causes the spot size varied as particularly recited in of claim 2. Kim et al., according to Fig. 4, disclose the use of a delay (see delay circuit 31) to compensate for a time delay between the signals originating from the two light spots (see column 7, lines 5-67). It has been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of a delay as taught by Kim et al. in the optical pickup device of Mashimo in order to offset light focusing error on a track of an optical disk.

Regarding claim 54, see the rejection applied to claim 53 and further see Fig. 7 of the US reference 5,132,957 which show an optical pickup wherein the means for sensing optical information comprises at least one laser light source (see LD 17) adapted to direct two beams of light toward adjacent locations along the track of the medium (see disk 19); and two optical detectors (see PD 20 and AMP 21) positioned to receive and register reflected light of the beams from the medium and to generate electrical signals in response thereto.

Cited References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to a recording/reproducing apparatus and method for optical recording medium with light beam splitting means.

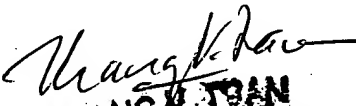
Art Unit: 2653

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q. Vuong whose telephone number is (571) 272-7596. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-5789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BV
June 6, 2005


THANG N. TRAN
PRIMARY EXAMINER